

WHAT IS CLAIMED IS:

1 1. A rotary power tool having a light source, comprising:
2 a housing;
3 an electric motor provided in said housing;
4 an elongated spindle engaged with and adapted to be rotatably driven by
5 said motor;
6 a rotatable holding assembly located at an end of said spindle and extending
7 from a front end of said housing for holding a tool accessory;
8 at least one magnet adapted to be rotated by said spindle for producing an
9 alternating magnetic field;
10 a generally tubular sleeve attached to said front end of said housing, and
11 having inner and outer surfaces;
12 light generating means at least partially embedded in said sleeve between
13 said inner and said outer surfaces at a front end of said sleeve;
14 means imbedded at least partially in said sleeve generally between said
15 inner and said outer surfaces, proximate said magnet for generating an electric current
16 from said magnetic field; and,
17 electrical conductors routed through said sleeve between said inner and said
18 outer surfaces for supplying said electric current from said current generating means to
19 said lighting means.

1 2. The power tool as defined in claim 1 wherein said magnet is secured
2 to a part of said holding assembly which is inside said housing, and adapted to induce said
3 electric current in said electric current generating means when said holding assembly is
4 rotated by said spindle.

FIG. 10
FIG. 11
FIG. 12
FIG. 13
FIG. 14
FIG. 15
FIG. 16
FIG. 17
FIG. 18
FIG. 19
FIG. 20
FIG. 21
FIG. 22
FIG. 23
FIG. 24
FIG. 25
FIG. 26
FIG. 27
FIG. 28
FIG. 29
FIG. 30
FIG. 31
FIG. 32
FIG. 33
FIG. 34
FIG. 35
FIG. 36
FIG. 37
FIG. 38
FIG. 39
FIG. 40
FIG. 41
FIG. 42
FIG. 43
FIG. 44
FIG. 45
FIG. 46
FIG. 47
FIG. 48
FIG. 49
FIG. 50
FIG. 51
FIG. 52
FIG. 53
FIG. 54
FIG. 55
FIG. 56
FIG. 57
FIG. 58
FIG. 59
FIG. 60
FIG. 61
FIG. 62
FIG. 63
FIG. 64
FIG. 65
FIG. 66
FIG. 67
FIG. 68
FIG. 69
FIG. 70
FIG. 71
FIG. 72
FIG. 73
FIG. 74
FIG. 75
FIG. 76
FIG. 77
FIG. 78
FIG. 79
FIG. 80
FIG. 81
FIG. 82
FIG. 83
FIG. 84
FIG. 85
FIG. 86
FIG. 87
FIG. 88
FIG. 89
FIG. 90
FIG. 91
FIG. 92
FIG. 93
FIG. 94
FIG. 95
FIG. 96
FIG. 97
FIG. 98
FIG. 99
FIG. 100

1 3. The power tool as defined in claim 1 wherein said magnet is
2 substantially in a shape of a ring.

1 4. The power tool as defined in claim 3 wherein said magnet is secured
2 to said holding assembly by a nut.

1 5. The power tool as defined in claim 3 wherein said magnet is secured
2 to said holding assembly by a collet nut of said rotatable holding assembly for holding
3 said tool accessory.

1 6. The power tool as defined in claim 3 wherein an inner opening of
2 said magnet is matingly attached to an outer surface of a nut that has an inner surface
3 which is configured and adapted to be threadably secured to said holding assembly.

1 7. The power tool as defined in claim 6 wherein said nut extends
2 beyond said magnet in an axial direction of said magnet.

1 8. The power tool as defined in claim 2 wherein said magnet has at
2 least two magnetic poles.

1 9. The power tool as defined in claim 1 wherein said electric current
2 generating means is an inductive coil.

1 10. The power tool as defined in claim 1 wherein said lighting means is
2 at least one light emitting diode (LED).

1 11. The power tool as defined in claim 1 wherein said tool is adapted to
2 receive power from an AC power source for supplying power to said electric motor.

12. The power tool as defined in claim 1 further including a DC power source for supplying power to said electric motor.

13. A light source apparatus for an electric-motor rotary power tool having a rotatable tool holder assembly and equipped to receive an accessory attachment, said apparatus comprising:

a magnet constructed and adapted to be removably secured to the rotatable tool holder assembly;

a generally tubular sleeve configured and adapted to be removably attached to a portion of the power tool configured for receiving the accessory attachment, said sleeve having inner and outer surfaces;

current generating means at least partially imbedded in said sleeve generally between said inner and said outer surface and positioned proximate said magnet when said sleeve is attached to the power tool, for generating an electric current from an alternating magnetic field created by said magnet when the power tool is operated;

light generating means at least partially embedded in said sleeve between said inner and said outer surfaces at a front end of said sleeve, and being adapted to illuminate when supplied with said electric current from said current generating means; and,

electrical conductors routed through said sleeve between said inner and said outer surfaces for supplying said electric current from said current generating means to said lighting means.

14. The apparatus as defined in claim 13 wherein said said current generating means is positioned at said front end of said sleeve proximate said magnet.

1 15. The apparatus as defined in claim 14 wherein said magnet is adapted
2 to be removably secured by the tool holder assembly and positioned on a portion of the
3 tool holder assembly which extends outside a housing of the power tool.

1 16. The apparatus as defined in claim 15 wherein said magnet is
2 substantially in a shape of a ring.

1 17. The power tool as defined in claim 16 wherein said magnet is
2 secured to said holder assembly by a nut.

1 18. The power tool as defined in claim 16 wherein said magnet is
2 secured to said holder assembly by a collet nut of said rotatable holder assembly for
3 holding a tool accessory.

1 19. The power tool as defined in claim 16 wherein an inner opening of
2 said magnet is matingly attached to an outer surface of a nut that has an inner surface
3 which is configured and adapted to be threadably secured to said holding assembly.

1 20. The power tool as defined in claim 19 wherein said nut extends
2 beyond said magnet in an axial direction of said magnet.

1 21. The apparatus as defined in claim 16 wherein said magnet has at
2 least two magnetic poles.

1 22. The apparatus as defined in claim 13 wherein said current generating
2 means is an inductive coil.

1 23. The apparatus as defined in claim 13 wherein said lighting means is
2 at least one light emitting diode (LED).

1 24. An extension attachment adapted to be removably connected to a
2 rotary power tool and having a light source and a tool holder, said attachment comprising:

3 a connection portion constructed and adapted to be connected to the rotary
4 power tool;

5 a substantially flexible extension portion extending from said connection
6 portion;

7 a hand piece portion extending from said extension portion;

8 a flexible shaft disposed coaxially with said connection, said extension and
9 said hand piece portions, the rotatable tool holder being attached to an end of said shaft in
10 said hand piece portion and extending outside of said handpiece portion for holding a
11 tool;

12 a magnet adapted to be attached to the tool holder and rotated by said shaft
13 for producing an alternating magnetic field;

14 a generally tubular sleeve attached to said front end of said hand piece
15 portion, and having inner and outer circumferential surfaces;

16 light generating means at least partially embedded in said sleeve between
17 said inner and said outer circumferential surfaces at a front end of said sleeve;

18 an inductive coil imbedded at least partially in said sleeve generally
19 between said inner and said outer surfaces, proximate said magnet for generating an
20 electric current from said magnetic field; and,

21 electrical conductors routed through said sleeve between said inner and said
22 outer circumferential surfaces for supplying said electric current from said current
23 generating means to said lighting means.

14 light generating means at least partially embedded in said sleeve between
15 said inner and said outer surfaces at a front end of said sleeve, and being adapted to
16 illuminate when supplied with said electric current from said inductive coil; and,
17 electrical conductors routed through said sleeve between said inner and said
18 outer circumferential surfaces for supplying said electric current from said inductive coil
19 to said lighting means.

1 30. The apparatus as defined in claim 29 wherein said lighting means is
2 at least one light emitting diode (LED).

1 31. The apparatus as defined in claim 29 wherein said magnet is
2 substantially in a shape of a ring.

1 32. The power tool as defined in claim 31 wherein an inner opening of
2 said ring is matingly attached to an outer surface of a nut that has an inner surface which
3 is configured and adapted to be threadably secured to the tool holder.

1 33. The power tool as defined in claim 32 wherein said nut extends
2 beyond said magnet in an axial direction of said magnet.